Claims 1-24 were presented for examination and were pending in this application. In an Official Action dated April 1, 2008, claims 1-24 were rejected. Applicant thanks the Examiner for examination of the claims pending in this application and addresses the Examiner's comments below.

The amendments herein are believed not to introduce new matter, and their entry is respectfully requested. Based on the above Amendments and the following Remarks, Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections, and withdraw them.

Specification

Applicant has amended paragraph [0014] of the specification to correct a typographical error. No new matter is added and entry of this amendment is requested.

Finality of the Next Action is Precluded

Applicant notes that independent claims 6, 18, and 24 and dependent claims 3-5, 15-17, and 21-23 were rejected based on § 101 only, but were not substantively rejected, e.g., under §§ 102 or 103. Specifically, the Examiner has not addressed several limitations present in the claims: (1) claims 3, 6, 15, 21, and 24 – "second order moments for the auto-correlation matrix and the covariance vector from pixel values in an input context"; (2) claims 3, 6, 15, 21, and 24 – "auto-correlation matrix and the covariance vector using the second order moments and a transpose operator"; (3) claim 18 – "calculate an auto-correlation matrix and a covariance vector using second order moments for the auto-correlation matrix and the covariance vector from pixel values associated with the image to

be resampled in an input context and a transpose operator"; (4) claims 4, 6, 16, 18, 22, 24 – "the product of the covariance vector and the inverse of the auto-correlation matrix"; and (5) claims 5, 6, 17, 18, 23, and 24 – "product of the set of filter tap weights and input pixel values for pixel values in the input context."

Thus, Applicant submits that a next Office Action rejecting independent claims 6, 18, and 24 and dependent claims 3-5, 15-17, and 21-23 cannot properly be made final, since it will be the first action addressing the limitations of these claims. *See* MPEP § 706.07(a).

Response to Rejection Under 35 U.S.C. § 101

In the first paragraph of the Office Action, the Examiner has rejected claims 1-24 under 35 U.S.C. § 101, as allegedly being based on non-statutory subject matter. This rejection is respectfully traversed.

Claims 1-6 were rejected under 35 U.S.C. § 101 because the claimed invention is allegedly directed to non-statutory subject matter. Specifically, the Examiner states that "the claims are drawn to [a] mathematical function." Applicant respectfully traverses this rejection in view of the amended claims.

A claimed invention is directed to a practical application of a 35 U.S.C. 101 judicial exception when it:
    (A) "transforms" an article or physical object to a different state or thing; or
    (B) otherwise produces a useful, concrete and tangible result, based on the factors discussed below. MPEP § 2106 IV.C.2.

An invention is <u>useful</u> if it satisfies the utility requirement of section 101, e.g., if "the mathematical concept has been reduced to some practical application rendering it 'useful'"; is <u>tangible</u> if the claim sets forth a practical application of a judicial exception to produce a real-world result; and is <u>concrete</u> if it is substantially repeatable. *See* MPEP § 2106 IV.C.2(2).

Claim 1 recites useful, tangible, and concrete results. As amended, claim 1 recites "calculating output pixel values to produce an output image." Here, the claimed invention calculates output pixel values to produce a tangible, concrete result – the output (resampled) image – that also is useful to those users desiring to have their image resampled. For instance, the claimed invention can be applied to solve the real-world problem of changing the size of an image. Such an application is practical and permits the claimed invention to comply with the utility requirement of section 101.

The result of the claimed invention is tangible because the claimed invention sets forth a practical application of a judicial exception that produces a real-world result, namely a resampled image. This resampled output image, at the very least, is momentarily fixed and can be used for recording, reporting, or other purposes. Lastly, the result is concrete because it is substantially repeatable. Thus, Applicant submits that claim 1 now recites patentable subject matter.

Independent claim 6 also is now statutory for the reasons recited above.

Dependent claims 2-5 and newly added claims 25 and 26 depend from claims 1 and 6, and thus are statutory for at least these reasons.

Claims 13-18 were rejected under 35 U.S.C. § 101 because the claimed invention is allegedly directed to non-statutory subject matter. Specifically, the Examiner states the claims are drawn "to descriptive material NOT claimed as residing on a computer readable medium." Applicant respectfully traverses this rejection in view of the amended claims.

Applicant has amended claims 13 and 18 to respectively recite computer program products that include computer-readable storage media, as recommended by the Examiner. Therefore, claims 13 and 18, as amended, now recite patentable subject matter.

Dependent claims 14-17 and newly added claims 27 and 28 depend on claims 13 and 18, and thus are statutory for at least these reasons.

Claims 19-24 were rejected under 35 U.S.C. § 101 because the claimed invention is allegedly directed to non-statutory subject matter. Specifically, the Examiner states that the claims are drawn "to descriptive material." Applicant respectfully traverses this rejection in view of the amended claims.

As amended claims 19 and 24 recite a system that includes "a processor." MPEP 2106 IV.B.2(a) states that when "a claim defines a useful machine or manufacture by indentifying the physical structure of the machine or manufacture in terms of its hardware or hardware and software combination, it defines a statutory product." A processor is a hardware element. Therefore, claim 19, as amended, complies with 35 U.S.C. § 101.

Dependent claims 20-23 depen from claim 19 and thus are statutory for at least these reasons.

Thus, claims 1-6 and 13-28 now recite statutory subject matter under § 101.

Response to Rejection Under 35 U.S.C. § 102(e)

In the second paragraph of the Office Action, the Examiner rejects claims 1-2, 7-8, 13-14, and 19-20 under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent Publication No. 2003/0174892 ("Gao"). This rejection now is traversed.

Claim 1 recites:

> A computer-implemented method of image resampling an image, comprising:
> estimating input image statistics from input pixel values associated with an
>   input image to be resampled;
> substituting the input image statistics for unknown output image statistics;
> **determining an optimum set of filter tap weights**; and
> **calculating output pixel values to produce an output image**.

These aspects of the claimed invention are not disclosed or suggested by Gao. Specifically, Gao does not disclose or suggest "determining an optimum set of filter tap weights." While the Examiner points to paragraphs [0031]-[0043] as disclosing this limitation, applicant can find no recitation of this claim element in this section or elsewhere in Gao. At best, paragraphs [0031]-[0043] mention the use of filter *parameters* (of which "structuring element sizes" are used as an example), and equations solving for probabilities. *See* Gao at [0033]. Gao does not disclose **filter tap weights** at all, much less "determining an optimum set" thereof.

Gao, as currently understood, also does not disclose or suggest "calculating output pixel values to produce an output image." At best, paragraphs [0045]-[0056] disclose function b_g.hat(t). *See* Gao at [0027], [0051]. However, the function b_g.hat(t) outputs *boolean values*, not "output pixel values to produce an output image." At best, these outputs are merely *labels* for the original image pixels denoted by 1s and 0s that indicate whether any given pixel is in the background (boolean value = 0) or the foreground (boolean value = 1) for a desired pattern. *See* Gao at [0032], [0056], & [0084]. These outputs are consistent with the purpose of Gao, which is directed at pattern classification tasks such as determining which portions of a car image should be labeled as being part of the car's license plate (boolean value = 1) and which portions should be labeled as not being part of the car's license plate (boolean value = 0). *See* Gao at [0084], [0085], & Abstract.

Thus, Applicant submits that claim 1 is patentably distinguishable over the cited art. Further, independent claims 13 and 19 are patentably distinguishable over the cited references for similar reasons.

Dependent claims 2, 14, and 20 depend from claims 1, 13, and 19 respectively, which were shown above to be patentable over the cited references and which recite additional features not shown in the cited reference. For these reasons, Applicant submits that claims 2, 14, and 20 also are patentably distinguishable over the cited reference.

Conclusion

In sum, Applicant respectfully submits that claims 1-6 and 13-28, as presented herein, are patentably distinguishable over the cited reference. Therefore, Applicant requests reconsideration of the basis for the rejections of these claims and requests allowance of them.

In addition, Applicant respectfully invites the Examiner to contact Applicant's representative at the number provided below if the Examiner believes it will help expedite furtherance of this application.

Respectfully Submitted,

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